Meter run
Model FLC-MR

Applications
- Power generation
- Oil production and refining
- Water treatment and distribution
- Gas processing and transmission
- Chemical and petrochemical industries

Special features
- Max. operating temperature and pressure limited by material and rating
- Suitable for liquid, gas and steam flow measurement
- Accuracy ≤ ±1.0 % of actual flow rate
- Repeatability of measurement 0.1 %

Description
High accuracy
Differential pressure flow meters are used in many industrial applications. If a high measurement accuracy is requested, the best solution for primary elements is a meter run.

A meter run is an assembly consisting of an orifice plate with flanges and calibrated upstream and downstream pipes. Since the meter run is manufactured as one unit, it is possible to optimally match all components with each other. Thus any faults that might lead to measuring inaccuracies can be avoided.

Optimal solutions for each application
Standards use the term “meter run” only for small pipe diameters up to 1 ½”. For larger pipe diameters starting from 2” the model FLC-MR-SP is the appropriate solution.

Irrespective of the size, the type of installation, the tapping point or the different transmitter connections, our portfolio offers the optimal solution for each application.
General specifications

Nominal size
Available in accordance with all relevant standards.

Nominal pressure rating
Available in accordance with all relevant standards.

Pipe schedule
The pipe schedule must be specified by the customer.

Materials
See specifications of each model.

Pressure tappings
See specifications of each model.

Sealing faces
- Slip-on flange: ANSI 150, 300#
- Welding neck flange (raised face): 150 ... 2500#
- Welding neck flange (ring joint): 150 ... 2500#
Other ratings on request.

Orifice plate
For detailed specifications see data sheet FL 10.01

Mounting options

<table>
<thead>
<tr>
<th>Slip-on flange</th>
<th>Butt weld</th>
<th>Welding neck flange</th>
<th>Socket weld flange</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Slip-on flange" /></td>
<td><img src="image2.png" alt="Butt weld" /></td>
<td><img src="image3.png" alt="Welding neck flange" /></td>
<td><img src="image4.png" alt="Socket weld flange" /></td>
</tr>
</tbody>
</table>

Length rule
The illustration shows the standards relating to the length of upstream and downstream pipes.

- ~ 18 x D
- ~ 8 x D
- ~ 26 x D

D = Diameter
Specifications, model FLC-MR-IO

Nominal size

\(\frac{1}{4} \ldots 1\frac{1}{2}''\) (DN 15 ... 40)

Pressure tappings

- Corner taps
- Two oval flanges for a direct connection of a differential pressure transmitter

Materials

- Pipe: Stainless steel 316/316L
- Pipe flanges: Stainless steel 316/316L
- Orifice flanges: Stainless steel 316/316L
- Studs: Stainless steel ASTM A 193 Gr. B8
- Nuts: Stainless steel ASTM A 194 Gr. 8
- Plug: Stainless steel 316
- Sealing: PTFE/Graphite
- Orifice plate: Stainless steel 316/316L

Other solutions on request.

Dimensions

<table>
<thead>
<tr>
<th>Nominal size</th>
<th>Dimensions in mm</th>
<th>Weight in kg</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>L</td>
<td>L1</td>
</tr>
<tr>
<td>(\frac{1}{4}'') (DN 15)</td>
<td>550</td>
<td>380</td>
</tr>
<tr>
<td>(\frac{3}{4}'') (DN 20)</td>
<td>700</td>
<td>500</td>
</tr>
<tr>
<td>1'' (DN 25)</td>
<td>900</td>
<td>650</td>
</tr>
<tr>
<td>1 1/2'' (DN 40)</td>
<td>1,300</td>
<td>1,000</td>
</tr>
</tbody>
</table>

Dimensions reported in the table are independent from the mounting option selected.
The weight indicated is referred to the slip-on flange as also indicated in the drawing.
Specifications, model FLC-MR-STD

Nominal size
½" ... 1 ½" (DN 15 ... 40)

Pressure tappings
- Corner taps
- Two ½ NPT connections

Materials
- Pipe: Stainless steel 316/316L
- Pipe flanges: Stainless steel 316/316L
- Orifice flanges: Stainless steel 316/316L
- Studs: Stainless steel ASTM A 193 Gr. B8
- Nuts: Stainless steel ASTM A 194 Gr. 8
- Plug: Stainless steel 316
- Sealing: PTFE/Graphite
- Orifice plate: Stainless steel 316/316L
Other solutions on request.

Dimensions

**Meter run with slip-on flanges**

<table>
<thead>
<tr>
<th>Nominal size</th>
<th>Dimensions in mm</th>
<th>Weight in kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>½&quot; (DN 15)</td>
<td>L=550 L1=380 L2=170</td>
<td>6</td>
</tr>
<tr>
<td>¾&quot; (DN 20)</td>
<td>L=700 L1=500 L2=200</td>
<td>9</td>
</tr>
<tr>
<td>1&quot; (DN 25)</td>
<td>L=900 L1=650 L2=250</td>
<td>11</td>
</tr>
<tr>
<td>1 ½&quot; (DN 40)</td>
<td>L=1300 L1=1000 L2=300</td>
<td>23</td>
</tr>
</tbody>
</table>

The weight indicated is referred to the slip-on flange as also indicated in the drawing.

**Standard meter run, model FLC-MR-STD**

**Meter run with welding neck flanges**

<table>
<thead>
<tr>
<th>Nominal size</th>
<th>Dimensions in mm</th>
<th>Weight in kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>½&quot; (DN 15)</td>
<td>L=600 L1=400 L2=200</td>
<td>10</td>
</tr>
<tr>
<td>¾&quot; (DN 20)</td>
<td>L=700 L1=500 L2=200</td>
<td>14</td>
</tr>
<tr>
<td>1&quot; (DN 25)</td>
<td>L=900 L1=600 L2=300</td>
<td>19</td>
</tr>
<tr>
<td>1 ½&quot; (DN 40)</td>
<td>L=1300 L1=900 L2=400</td>
<td>40</td>
</tr>
</tbody>
</table>

The weight indicated is referred to the welding neck flange as also indicated in the drawing.
Specifications, model FLC-MR-SP

Nominal size
≥ 2" (≥ DN 50)

Pressure tappings
- Flange taps
- Two ½ NPT connections

Materials
- Pipe: Carbon steel ASTM A106 gr. B
- Pipe flanges: Carbon steel ASTM A105
- Orifice flanges: Carbon steel ASTM A105
- Studs: Stainless steel ASTM A 194 Gr. B7
- Nuts: Stainless steel ASTM A 194 Gr. 2H
- Plug: Carbon steel
- Sealing: Stainless steel 316, graphite, carbon steel
- Orifice plate: Stainless steel 316/316L
Other solutions on request (e.g. with annular chambers).

Dimensions

<table>
<thead>
<tr>
<th>Nominal size</th>
<th>Dimensions in mm</th>
<th>Weight in kg</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>L</td>
<td>L1</td>
</tr>
<tr>
<td>2&quot; (DN 50)</td>
<td>1,500</td>
<td>1,200</td>
</tr>
<tr>
<td>2 ½&quot; (DN 65)</td>
<td>1,600</td>
<td>1,250</td>
</tr>
<tr>
<td>3&quot; (DN 80)</td>
<td>1,800</td>
<td>1,400</td>
</tr>
<tr>
<td>4&quot; (DN 100)</td>
<td>2,200</td>
<td>1,700</td>
</tr>
</tbody>
</table>

Dimensions reported in the table are independent from the mounting option selected.
The weight indicated is referred to the welding neck flange as also indicated in the drawing.

Ordering information
Model / Nominal size / Nominal pressure rating / Pipe schedule / Material / Sealing face